Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
FCC Notice of Proposed Rule Making	)	ET Docket No.: 18-295
	)	
Unlicensed Use of the 6 GHz Band	)	GN Docket No.: 17-183
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz.	)	
	)	
	)	

REPLY TO WIFI ALLIANCE COMMENTS BY NXP USA, INC.

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REPLY OF NXP USA INC.

NXP Semiconductors ("NXP") provides the below comments regarding to *the Use of the 6 GHz Band Notice of Proposed Rulemaking* adopted by the Federal Communications Commission (the "Commission") on December 17, 2018 (the "NPR"), specifically directed towards potential WiFi services in the 5.925-7.125 GHz ("6 GHz") band.

NXP Semiconductors, a combination of the former semiconductor divisions of Philips and Motorola, is a semiconductor company with significant operations in the United States, Europe and Asia, built on more than 60 years of combined experience and expertise. NXP Semiconductors is the world's largest semiconductor supplier to the automotive industry and is the global leader in security technology and secure identification solutions in various markets including banking cards, secure car access, RF-ID and NFC markets. NXP has developed and is continuing to develop Ultra Wide Band ("UWB") Real-Time Location System ("RTLS") technology for its target applications.

In reference to the "Comments of WiFi Alliance"[1] in this matter:

NXP would like to provide the following perspective with regard to coexistence between WiFi and Ultra Wide Band (UWB) devices operating in the 6 GHz band.

UWB devices have been operating in the 5.925-7.125 GHz ("6 GHz") band under the Commission's spectrum rules[2] since 2002. There are recent developments in UWB technology and

[1] Comments of the WiFi Alliance, in the matter of Unlicensed Use of the 6 GHZ Band Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, ET Docket No 18-295, GN Docket No. 17-183, dated February 15, 2019, section II.3 "Coexistence with Ultra-Wideband Devices".

[2] 47 C.F. R. Ch 10 Part 15, Subpart F.

applications creating unique solutions to longstanding problems of secure Real Time Location System (RTLS) as developed by IEEE 802.15.4z, also referred to in NXP's Comments[3] to the Commission's Notice of Proposed Rulemaking[4] in this matter.

UWB should not be Operating on a Sufferance Basis With Respect New Unlicensed Devices

NXP does not consider it appropriate that UWB applications are considered to behave on a simple sufferance basis to new unlicensed applications in the 6 GHz band. The Commission's decision regarding UWB was not made with respect to what were at the time unanticipated unlicensed systems operating in the 6 GHz band. The decision for a sufferance basis was a suitable solution in that context. The permissions thus granted have proven to be very conservative. The position of the UWB permission under 47 C.F. R. Chapter 10 Part 15, Subpart F, as it was determined at the time, is similar to that of Wi-Fi technology relative to the existing fixed link and mobile services under the current Commission considerations: there is to be no interference with these existing services.

Furthermore, the authorization for unlicensed operation in the 6 GHz band applies equally to any standard or technology deployed under these rules; i.e. equally to Wi-Fi and UWB.

Therefore NXPs position is that there is no reason for considering UWB devices under 47 C.F. R. Ch 10 Part 15, Subpart F as operating on a "sufferance basis" with respect to devices operating on a unlicensed basis. Both should be permitted to operate side by side. Spectrum rules should not be unnecessarily discriminatory.

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[3] Comments of NXP USA, Inc in the matter of Unlicensed Use of the 6GHz Band Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, ET Docket No 18-295, GN Docket No. 17-183

[4] FCC Notice of Proposed Rulemaking, In the Matter of Un Unlicensed Use of the 6 GHz Band Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, ET Docket No. 18-295, GN Docket No. 17-183, released October 24, 2018

UWB should be granted fair spectrum access

NXP is additionally of the opinion that unlicensed operation open to any application without constraints grants a premium to the most intrusive technology regarding spectrum access. UWB operates on very low power levels. Nearby transmissions of Wi-Fi devices will completely impede reception. Given the potentially prolific operation of Wi-Fi devices in the 6 GHz band, UWB devices will only be able to function with a suitable combination of limited duty cycles and limited power levels for Wi-Fi. Alternatively, or complementarily, the Commission should consider establishing a suitable standard for accessing the 6 GHz band that permits multiple technologies to share the band under fair conditions. In similar situations under consideration by the Commission, a common approach to spectrum access has been explored.

No Assumption on Single Entity Management of Interference Should Be Made

NXP also would like to issue objection to the notion in the WiFi Alliance comment[5] that "management of interference can be left to the entity". First of all, the "entity" operating the device that disturbs a UWB station may very well not be the same entity that operates the UWB station. In addition, we respectfully request the Commission to take into account that the typical entity is a consumer. Consumers cannot reasonably be assumed to understand interference problems and how to resolve them. As such, in our opinion the argument is severely flawed in these two important aspects. Last of all the remedy to the coexistence problem has not been explored in this specific case, so it is premature to conclude that a solution would be expensive.

[5] Supra note 1